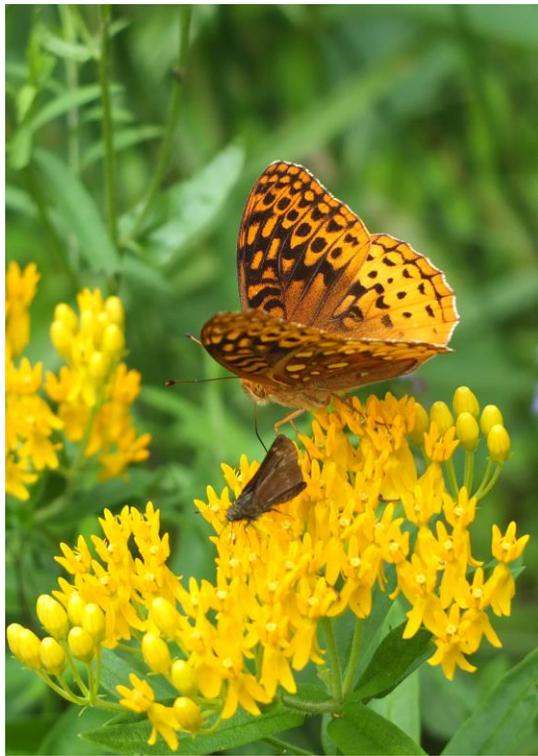


FY16 FINAL REPORT OF NORTHERN VIRGINIA NATIVE PLANT SOCIAL MARKETING CAMPAIGN “PLANT NOVA NATIVES”



This report was produced, in part, through financial assistance from the Virginia Coastal Zone Management Program (CZMP), Virginia Department of Environmental Quality through Grant No. NA16NOS4190171 from the National Oceanic and Atmospheric Administration (NOAA). This report describes the Northern Virginia Native Plant Social Marketing Campaign (“Plant NoVA Natives”) project conducted by the Northern Virginia Regional Commission (NVRC) in FY16.
Date: November 2018



Executive Summary

This report was produced by the Northern Virginia Regional Commission staff, in part, through financial assistance from the Virginia Coastal Zone Management Program (CZMP), Virginia Department of Environmental Quality through Grant No. 1 NA16NOS4190171 from the National Oceanic and Atmospheric Administration (NOAA). This report describes activities of the Northern Virginia Native Plant Social Marketing Campaign (“Plant NoVA Natives”) project conducted by the Northern Virginia Regional Commission (NVRC) in FY16.

This report fulfills the product requirements set forth in the FY 2016 Virginia Coastal Zone Management Program Grant, Task 54 for:

This report fulfills the product requirements set forth in the FY 2016 Virginia Coastal Zone Management Program Grant, Task 54 (NOAA Grant # NA16NOS4190171) for:

- **Product #1 – Campaign Implementation and Community Leader Coordination**
- **Product #2 – Native Plants and Water Quality Workshop**
- **Product #3 – Mid-Campaign Evaluation**
- **Product #4 – Model Native Plant Comprehensive Plan Language**

These products reflect an extensive amount of work conducted by NVRC staff, Plant NOVA Natives volunteers, as well as the input and contributions from the project’s multi-partner steering committee of natural resource managers, native plant experts, and others from local governments and conservation organizations in the Northern Virginia region. Steering committee members represented the following organizations:

Virginia Coastal Zone Management Program

Virginia Department of Forestry

Virginia Native Plant Society, Prince William Wildflower Society Chapter

Virginia Native Plant Society, Potowmack Chapter

Audubon Society of Northern Virginia

Audubon at Home

Virginia Master Gardeners

Virginia Master Naturalists

Northern Virginia Soil and Water Conservation District

Virginia Cooperative Extension

Loudoun Wildlife Conservancy

Nature by Design Garden Center

Arlingtonians for a Clean Environment

Representatives contributed their time, expertise, resources, talent and support, which resulted in the final products of this grant project.

Contents

1	Introduction.....	1
2	Product #1: Campaign Implementation and Community Leader Coordination	3
3	Product #2 Native Plants and Water Quality Workshop.....	4
4	Product #3 Mid-Campaign Evaluation	4
4.1	Commitments	5
4.2	Prompts	5
4.3	Social Norms.....	5
4.4	Communication.....	7
4.5	Lessons Learned.....	10
5	Product #4 Model Native Plant Comprehensive Plan Language	10

1 Introduction

Increasing the amount of indigenous vegetation cover in Virginia's coastal zone is relevant to many of the goals of the Virginia Coastal Zone Management Program (CZMP) such as restoring or enhancing coastal habitats, protecting water quality, and providing resilience to storm events and climate change. In FY 2011, the Virginia CZMP awarded the Northern Virginia Regional Commission (NVRC) a grant to design and pilot-test a community based social marketing campaign aimed increasing the use of native plants in residential landscapes. The effort was named the "Plant NOVA Natives" campaign. The Plant NOVA Natives campaign was designed to use social marketing tools and techniques with a focus on making planting natives fun, easy and popular. The campaign's goal is to move beyond education and awareness and change individual behavior; and in the long run establish a social norm for use of native plants in the suburban and urban landscape. Social research has revealed that it takes approximately 10-12% of the population to regularly conduct an activity before it is considered socially normal. Therefore, one of the goals of the Plant NOVA Natives campaign is to reach at least 100,000 landowners with the campaign over the next few years. To undertake this monumental task, a cadre of approximately 250 volunteer Community Leaders was recruited and trained about the campaign. In FY 15, NVRC received a Section 309 grant from CZM to fully implement the campaign, develop partnerships with the retail sector, and also develop policies that focus on revisions to local weed ordinances and natural landscaping policies to protect and increase native vegetation.

The Plant NOVA Natives campaign has a history of building on success and is now widely recognized throughout the region. Major accomplishments to date include:

- Development of a Steering Committee that meets monthly
- Development of multi-media promotional materials including: highly acclaimed guide "Native Plants for Northern Virginia", website www.plantnovanatives.org, Facebook page (over 1200 followers), Instagram, LinkedIn, Twitter, garden signs, banners, and an on-line pledge map
- Coordination of over 200 volunteers trained with the message and strategy who are divided into several teams
- Invitations to speak at many high profile events including; The Capital Remodel and Garden Show alongside celebrity TV hosts the Property Brothers <http://www.capitalremodelandgarden.com/>
- Partnerships with several plant businesses with 10 locations across Northern Virginia. These businesses stock and sell the guide, have agreed to put up Plant NOVA Natives banners and handouts as well as identify and group their native plants together in a display under the banner.
- Over 8,000 guides printed and distributed without grant funding
- Resolution passed by the Northern Virginia Regional Commission recognizing the importance of native vegetation in a managed natural landscape.

The long-term vision of the campaign is to; 1) continue the build upon the campaigns previous efforts until there is sufficient demand from consumers to increase the supply and variety available from growers and retailers and, 2) integrate native plant policies into interagency

planning for land use, schools, public facilities, and parks and recreation. In FY16, NVRC received a third grant from Virginia CZMP to continue to implement the campaign

This report fulfills the product requirements set forth in the FY 2016 Virginia Coastal Zone Management Program Grant, Task 54 (NOAA Grant # NA16NOS4190171) for:

- Product #1 – *Campaign Implementation and Community Leader Coordination*
- Product #2 – *Native Plants and Water Quality Workshop*
- Product #3 - *Mid-Campaign Evaluation*
- Product #4 - *Model Native Plant Comprehensive Plan Language*



Figure 1: Photo showing “Native Plants for Northern Virginia” on display at local retail garden

2 Product #1: Campaign Implementation and Community Leader Coordination

As an organization composed primarily of volunteers, coordination is very important to the campaign's success. Plant NoVA Natives volunteers are incredibly talented, dedicated and passionate in their efforts to increase the amount of native plants being used in Northern Virginia. The reason why this campaign has been successful and cost effective, is the overwhelming value of the time spent by volunteers. To help guide the continued effort of these volunteer Community Leaders, it is important to have a volunteer and outreach coordinator who provides this oversight and tracks the activities and impacts of volunteer efforts.

During this grant period, the Community Leader Program Coordinator served on the "Plant NoVA Natives" Steering Team to coordinate the organizational structure and direct the activities of approximately 200 volunteers, to update, present, and distribute a Community Leader Outreach Kit, and to train and direct the activities of approximately 200 volunteers.

Outcomes from volunteer efforts are summarized below.

- Worked directly with several large retail garden centers to tag plants as native, answer customer questions about native plants, and give educational talks and tours to customers.
- Gave presentations to community organizations such as neighborhood garden clubs about native plant identification, ecosystem value, and choosing the right plant for the right place.
- Helped maintain and give tours of native plant demonstration gardens.
- Staffed campaign exhibits, sold guides, and spoke to people at numerous public events and plant sales.
- Worked with local school groups to install pollinator gardens, rain gardens, and other types of native plant habitats.
- Attended monthly steering committee meetings
- Wrote monthly newsletter article
- Maintained and update website
- Organized two "All Partners" meetings to coordinate efforts among stakeholder organizations
- Held two "Volunteer Picnics" to show appreciation to volunteers
- Presented two "NOVA Native Champion" Awards
- Developed and maintained social media pages
- Created original content for social media pages
- Set up a relationship with the Community Foundation of Northern Virginia to allow people to donate money to the campaign
- Advertised seasonal native plant sales held throughout Northern Virginia
- Created original content for website <https://www.plantnovanatives.org/>
- Developed a mobile "Plantfinder" app
- Held several licensed screenings of the film "Hometown Habitat"
- Created and implemented a faith community outreach plan to encourage faith

- communities to install native plant gardens on their grounds
- Created a public domain photo library where photos can be used for free without permission
 - Wrote and distributed monthly campaign updates
 - Staffed activity tables for several school Meaningful Watershed Experiences
 - Awarded “Friends of Trees” award by Fairfax County for the campaigns efforts in educating people about native trees
 - Developed portable library displays which have been circulating at libraries throughout the region
 - On-line pledge where people can enter the area they intend to convert to native plants and the species they plan to use.

3 Product #2 Native Plants and Water Quality Workshop

Native plants are frequently touted as having multiple water quality benefits such as: slowing overland flow while filtering out pollutants and fertilizers, increasing infiltration by the deep roots systems of native plants, and preventing unnecessary applications of pesticides and fertilizers. Native plants are sometimes specified to be included in vegetated Best Management Practices such as rain gardens and always preferred for stream restoration and forested buffers. The performance of vegetated buffers, floating treatment wetlands, filter strips and grass swales are directly affected by changes in vegetation types (i.e., from woody to grass) and density levels.

NVRC coordinated a workshop which brought together storm water engineering staff from the City of Alexandria and a locally renowned landscape design professional who specializes in rain gardens and using native plants to provide information on how to design landscapes that minimize the pollution from urban stormwater runoff. The workshop was called “Beautiful Solutions to Stormwater Pollution: How To Design Attractive Landscapes That Manage Runoff”. The outcome was approximately 50 participants were trained on how they reduce stormwater pollution around their property while using native plants in the landscape.

4 Product #3 Mid-Campaign Evaluation

The first phase of this campaign, which was carried out during the FY14-15 grant period, included conducting market research to design the campaign strategy and launch a pilot of the campaign. Evaluation of the pilot launch recommended that outreach efforts begin with “focus initially on “Group 1”.” (NVRC, 2016 <https://drive.google.com/file/d/0B1EQt9kb68CZdFVqN19YMkJXZHM/view>). Group 1 represents the homeowners who responded that they are ‘very interested’ in purchasing native plants once they were provided some basic information about the benefits they have in the environment. This is about 20% of respondents or the “Early Adopters”. This target audience may already be connected with one of the partner organizations in one way or another. This is a group that is already primed to follow through with the desired behavior of planting natives in their landscape, since the barriers are low in relation to the motivations. By initially focusing on this group, the campaign partners can set the stage for Category 2 and beyond (the early and late majority of people) by beginning to change the social norm around native plants. The FY15

report recommended that a combination of commitments, prompts, social norms, and education through communication be used to carry out the campaign.

4.1 Commitments

According to McKenzie-Mohr, commitments enhance the likelihood that the individual who made the commitment will engage in the behavior. For a commitment to be effective, the commitment must be voluntary. To get commitments from homeowners that they will plant native plants on their property, a pledge form was created on the PNN website. As of October 2018, 431 people have taken the pledge.

4.2 Prompts

Prompts are another tool that has been shown to be effective in getting behavior change. Prompts are basically reminders; a visual or auditory aid which reminds us to carry out an activity that we might otherwise forget.

Prompts were used by the campaign at plant retailers in the form of stickers. For a prompt to be effective it has to need to be noticed, self-explanatory, and in close proximity to where the action is to be taken. With this information in mind, bright red stickers with the word “NOVA Native” were placed on thousands of pots of plants at twelve garden centers that were native to Northern Virginia (Figure 2).



Figure 2. Pot sticker that was used as a prompt at garden centers across the region

Prompts are better when used to encourage people to engage in positive behaviors because when people feel good about their actions, they are more likely to repeat it. Therefore, labeling of plants that are exotic and/or invasive was avoided.

4.3 Social Norms

Social norms are another community based social marketing tool that was used in the campaign. Social norms are the unwritten rules of behavior that are considered acceptable in a group or society. While some people seek to be different, most just want to be part of the group. In Northern Virginia, it is normal for most households to have a large, manicured lawn area with maybe one or two ornamental trees or shrubs in the front. Norms can change according to the

environment, situation, and culture in which they are found, and people's behavior will also change accordingly. Social norms may change over time depending on the rate of social diffusion.

Social norm techniques were used by the campaign volunteers as a way to influence the idea that all homes need to have a large, manicured lawn area. This was done by installing yard signs in their native plant garden that not only identified it as a native plant garden but also indicated to their neighbors that they had made an intentional commitment to having native plants in their landscape (Figure 3).

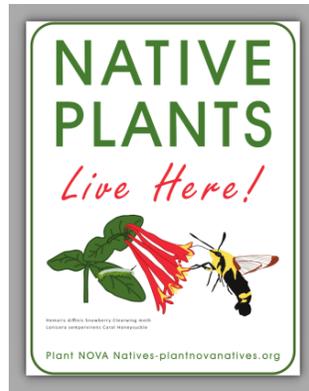


Figure 3. Yard Sign

We also created an on-line store where people could purchase other wearable items that indicated they were interested in the Plant NOVA Natives campaign



Figure 4. Plant NOVA Natives wearable items.

Volunteers also posted short articles about native plants and the campaign on seven Patch sites. [Patch](#) is an independent U.S. local news and information platform that operates in over a thousand hyperlocal locations in all 50 states and Washington, D.C.. They are a community-specific news, information and engagement network driven by passionate and experienced media professionals.

The social media platform NextDoor.com was also utilized. NextDoor.com is a private social network for neighborhoods. Volunteers posted articles about native plants in 40 neighborhoods across the region, making them available to be read by well over 200,000 people each time.

4.4 Communication

Communication is a major component of the campaign. In an effort to persuade people to purchase and plant native plants in their yard, we created simple messages to try to grab the attention of area residents and engage them in thinking about making sustainable landscaping choices. A variety of promotional and educational materials were developed to make it easy for people to understand why native plants are important for the environment and which plants are readily available for purchase.

Communication materials took many forms including hard copy brochures, handouts, and guide books, displays at libraries, digital materials such as videos with subtitles, articles on the website, ads on Facebook, information shared on social media, the film “Hometown Habitat” by Catherine Zimmerman, as well as a lot of face to face interaction through staffing booths at community events and fairs, giving talks to garden clubs, and connecting homeowners with partner organization Audubon-at-Home for a site visit.

Many communication materials, such as the guide [“Native Plants for Northern Virginia”](#) featured vivid photos of colorful plants to grab people’s attention. Other materials were meant to be more simple with a clear message, such as the [five easy plants for sun or shade](#) brochures (Figure 5).

<p>Butterfly Weed - <i>Asclepias tuberosa</i></p>  <ul style="list-style-type: none"> • Mature height: 1 - 3 feet • Blooms: Yellow-orange to bright orange in May-September • Natural habitat: Dry/rocky open woods, glades, fields and roadsides • Full sun, part shade • Moist or dry, well-drained sandy soils (tolerates drought and poor soil) 	<p>Blue Wild Indigo - <i>Baptisia australis</i></p>  <ul style="list-style-type: none"> • Mature height: Up to 5 feet • Blooms: Blue-purple and pea-like in April - May • Natural habitat: Dry to moist open woods, stream banks, floodplains • Full sun • Moist, usually sandy acidic soil 	<p>Turk's-cap Lily - <i>Lilium superbum</i></p>  <ul style="list-style-type: none"> • Mature height: 4 - 8 feet • Blooms: Red, orange, yellow in July - September • Natural habitat: Wet meadows, swamps, woods • Full sun • Moist, loam, sand, acidic soils (good drainage essential)
<p>Whorled Coreopsis - <i>Coreopsis verticillata</i></p>  <ul style="list-style-type: none"> • Mature height: 6 inches - 3.5 feet • Blooms: Yellow in May - July • Natural habitat: Dry, open woods; well-drained, • Primarily acidic soil; drought tolerant • Full sun to part shade 	<p>Cardinal Flower - <i>Lobelia cardinalis</i></p>  <ul style="list-style-type: none"> • Mature height: 1 - 6 feet • Blooms: Red in July - October • Natural habitat: Low areas, woodlands edge, stream banks, roadsides, meadows • Full sun, part shade, shade • Moist to wet, humus-rich, sandy and clay soil 	<p>More Sun Loving Flowers</p> <ul style="list-style-type: none"> <i>Asclepias incarnata</i> - Swamp Milkweed <i>Baptisia tinctoria</i> - Yellow Wild Indigo <i>Chelone glabra</i> - White Turtlehead <i>Eutrochium purpureum</i> - Sweet Joe Pyeweed <i>Geranium maculatum</i> - Wild Geranium <i>Hibiscus moscheutos</i> - Swamp Rose-mallow <i>Monarda didyma</i> - Scarlet Beebalm <i>Penstemon digitalis</i> - Beardtongue, <i>Solidago altissima</i> - Tall Goldenrod <i>Solidago juncea</i> - Early Goldenrod <i>Symphotrichum nova-angliae</i> - New England Aster <i>Symphotrichum novi-belgii</i> - New York Aster <i>Vernonia noveboracensis</i> - New York Ironweed <i>Zizia aurea</i> - Golden-alexanders

Figure 5. Page 2 of Five Easy Plants for Sun

In spaces where people may have more receptive to taking in information, campaign volunteers set up informational displays in the exhibit cases. These displays contained more in-depth information about why native plants are good choices for improving wildlife habitat and water quality (Figures 6 and 7).



Figure 6. Plant NOVA Natives display at the Centreville Library



Figure 7. Plant NOVA Natives display at the Burke Branch Library

Table 1 below shows how the campaign used a variety of social marketing tools in combination with each other during campaign implementation.

Commitments	Reminders/Prompts	Social Diffusion/Norms	Communication
<ul style="list-style-type: none"> • 431 took the on-line pledge through the Plant NOVA Natives website • Partnered with Audobon-at-Home to work with six faith communities on creating a native plant garden with financial assistance provided by the Burke Grant from the National Audubon Society 	<ul style="list-style-type: none"> • Thousands of “NOVA Native” and “Virginia Native” stickers on plants at twelve garden centers • Banners at plant retail centers • Guides placed next to cash register • Tours of native plants during special events at garden centers 	<ul style="list-style-type: none"> • Yard signs • Other wearable items that • Were honored by the Fairfax County Tree Commission with a Friends of Trees award. • Posted articles on seven Patch sites • Posted articles on NextDoor.com in 40 neighborhoods, making them available to be read by well over 200,000 people each time. 	<ul style="list-style-type: none"> • Put up a display for a month in the exhibit case in each of 14 libraries • Sold approximately 3,500 copies of <i>Native Plants for Northern Virginia</i> • Put up a display for a month in the exhibit case in each of 14 libraries • Migrated to a new web provider, greatly improving the website • 831 subscribers to the mailing list (not including the many hundreds who receive it via various other listservs) • Created 5 videos for YouTube and several others for Facebook, garnering over 41 thousand views • Ran three Facebook ads which were responsible for 16 thousand of those views • Participated in over 35 public events by staffing a table or giving a

			talk <ul style="list-style-type: none"> • Garnered 1,776 “Followers” to the facebook page
--	--	--	--

4.5 Lessons Learned

Social media is an effective tool for timely sharing of information about upcoming plant sales, other native plant related events, and links to articles. Facebook and Nextdoor.com were the most frequently used social media sites. The results indicated that Facebook was the campaign’s most effective platform in generating viewers who clicked on links, particularly when paired with self-generated content, and short videos with subtitles.

Using social media to convey educational messages can be challenging. To be successful, the message must be communicated quickly and efficiently, in short bursts with something eye catching like a butterfly video. A short burst or catchy headline can gain someone’s attention without inundating them with information. Once you have them as an audience, then hopefully you can bring them into the website where they can gain access to more substantive information about the campaign.

Measuring the relative impact of the campaign activities on people’s overall attitude and behavior throughout the region is a difficult task without having results from a statistically valid survey however, there is evidence that could reasonably be used to make a connection.

Information such as sales of native plants is a good measure. Therefore, three plant retailers were asked if they could provide information on whether their sales of natives had increased. All three retailers reported that in fact, their sales had increased.

- One retailer reported that their sales had increased steadily year over year during the past three or four years.
- Another retailer reported they are on a streak of 4 or 5 years of hitting new records at plant sales.
- The Northern Alexandria plant sale reported “The counters counted about 800 people coming by the sale! (That compares to 600 people counted a year ago at the April 2017 sale.)“

Yard signs and Plant NOVA Natives gear has been relatively ineffective due to the low rate of use.

5 Product #4 Model Native Plant Comprehensive Plan Language

Local governments in Northern Virginia can derive substantial economic and ecosystem benefits from promoting the use of native vegetation in landscaped areas and preserving native vegetation in natural areas. For example, a large turf area that is mowed, fertilized, and irrigated on a regular basis could be transitioned to a native wildflower meadow and reduce the cost and environmental burden of maintaining the area as turf. Similarly, maintaining tree canopy in natural areas can provide multiple benefits including reduction of the urban heat island effect and interception of stormwater runoff.

A comprehensive plan is a collection of information and materials used to plan for the future growth and to address change and evolution of a community. In Northern Virginia, every jurisdiction has a comprehensive plan that deals with issues related to land use, management and preservation of natural resources, identification and preservation of historically significant lands and structures, and adequate planning for infrastructure needs. Some comprehensive plans are also utilized to address issues related to schools, recreation, and housing.

Comprehensive plans typically identify various community goals and identifies policies that support that goal. The language of comprehensive plans is typically general in nature and provides a framework and policy context within which to make decisions relating to land use and future development. The comprehensive plan is also a long-range planning horizon of up to 50 years.

If a local government wishes to promote the use of native vegetation, particularly on government owned property, they might consider amending their comprehensive plan to include language, that encourages or requires the use of native vegetation on landscaped areas, discourages the use of invasive plant species, and encourages the protection of existing indigenous vegetation.

MODEL COMPREHENSIVE PLAN LANGUAGE

Virginia's native plants provide essential economic and ecosystem services by helping to reduce stormwater runoff, filtering water, reducing erosion and flooding, and enabling efforts to beautify the region. Native plant biodiversity has declined in Northern Virginia through loss of habitat and competition with non-native species. In addition, Northern Virginia parks and open spaces currently contend with hundreds of non-native plant species, some of which are invasive and compete with native plant species, degrade soil, facilitate erosion, decrease recreation opportunities, create on-going management issues, and alter the region's natural landscapes. Landscaped areas and gardens comprised of Virginia native plants are well suited to Virginia's climate and soil, and require far fewer fertilizers, soil amendments, or pesticides, than conventional landscapes and have the ability to support pollinators and other wildlife. Furthermore, landscaped areas comprised of Virginia native plants provide natural links between fragments of natural areas and instill a greater understanding and appreciation for Virginia's natural heritage.

Therefore (xyz County/City/Town) landscaped areas shall use plant species that are native to Northern Virginia to the maximum extent possible. The use of local eco-type plants shall be prioritized especially in natural areas such as parks or in close proximity to natural areas.

Invasive, exotic plants that are listed on the [Virginia Department of Conservation and Recreation's Invasive Plant Species List](#) shall not be planted on any County/City/Town property. The source of all plant material, other than existing native vegetation at the site, shall be from nurseries.

The use of native vegetation will be promoted in all existing and proposed landscaped areas through education and outreach to the public. Weed control laws that require cultivated areas be free of foreign growth, not create a public nuisance, and maintained as either turf grass or lawn area essentially prohibit property owners from creating a managed natural landscape. These weed control laws shall be amended to make exception for homeowners who seek to develop a managed natural landscape that is consistent with the definition below.

DEFINITIONS

Invasive Plant Species: Plant species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity or humans. a reference list of invasive plants problematic in Virginia is published by the Virginia Department of Conservation and Recreation Natural Heritage Program (<http://www.dcr.virginia.gov/natural-heritage/invspdflist>)

Landscaped Area: the entire parcel except the building footprint, driveway, parking lot, decks, patios, outbuildings, agricultural areas, and other impervious areas.

Native plants: Defined by DCR as plants that occur in the region in which they evolved. Virginia Native Plants: <http://www.dcr.virginia.gov/natural-heritage/nativeplants#what>

Non-native invasive plants: Defined by DCR as introduced species that cause health, economic or ecological damage in the their new range. Virginia Invasive Plant Species List: <http://www.dcr.virginia.gov/natural-heritage/invspdflist>

Managed, natural landscape: Defined as a planned, intentional, and maintained planting of native grasses, wildflowers, forbs, ferns, shrubs or trees, including but not limited to rain gardens, meadow vegetation, conservation landscaping, and ornamental plantings.

Grass or lawn area: Defined as area of ground covered with turf or sod forming grass intended as monoculture with uniform appearance.

Foreign growth: Defined as non-native invasive plants of no economic value that are not indigenous to the commonwealth, are not a managed, cultivated habitat and that adversely affect the health of the neighborhood and of native plants and the utility of the land on which foreign growth is found.

Public Nuisance:

Vacant or occupied, developed or undeveloped property upon which buildings or other improvements are located, where grass or lawn area and other foreign growth on such property does not meet health and safety standards.

Health and safety standards include, but are not limited to, trees or other vegetation in danger of intruding or falling on public right of way and conditions which may cause disease, cover for unlawful activity or spread of foreign growth and litter.